# Power Sprayer Skid & Trailer

# Operator's & Parts Manual

**5-1-13 02-024R4**

Printed In The USA — Specifications & Design Subject To Change Without Notice!

## *A Message To The Owner And Operator*

This equipment was carefully designed and manufactured to give you dependable service. To insure efficient operation of this equipment, please read this operator's manual carefully. Check each item and acquaint yourself with the adjustments required to maintain optimum performance and operation. ***Remember, this equipment's performance depends on how you operate and care for it!***

At the end of each season, thoroughly clean and inspect your equipment. Preventive maintenance saves time and pays dividends. Your nearest Wylie Spray Center has original equipment parts which assure proper fit and best performance. Record your equipment's model and serial numbers and the date you purchased this equipment in the space below. Have this information available when you order parts or attachments.

Model Number: _____

Serial Number: _____

Date Purchased: _____

## *Limited Warranty*

This is a limited warranty. It covers products manufactured by WYLIE Mfg. Co. The Warrantor is **WYLIE Mfg. Co., 702 E. 40th St., Lubbock, TX, 79404, USA**. The duration of the warranty for WYLIE manufactured equipment and products (excluding polyethylene tanks) is for **one year from date of delivery to the carrier.** The Warrantor warrants to the Buyer that the product(s) sold hereunder are free from defects to material and workmanship, under normal use and service, in the hands of the original buyer.

If goods are defective, the defective goods will be replaced with identical goods. If identical goods are not available, the Buyer may elect to receive a refund of the purchase price for the defective goods, or the Buyer may order similar goods. **The damage for defective goods shall not exceed the purchase price of the defective goods. No allowance shall be made for labor or expense or repairing goods without prior approval in writing by the Warrantor.** The Buyer's remedy under this warranty does not include incidental or consequential damages.

For products not manufactured by the Warrantor, the Warrantor warrants these products to the extent of the warranties of their respective manufactures. **There are no warranties which extend beyond this limited warranty, including the implied warranty of merchantability.** Dealers or representatives shall not make any representation in regard to particular goods except as authorized by the Warrantor through a written warranty accompanying those particular goods.

## *Disclaimer of Warranty*

WYLIE Mfg. Co., and its divisions, "Wylie Spray Centers," in each location, requires as a condition of sale and coverage by its LIMITED WARRANTY that all equipment sold by it be used in accordance with the instructions and specifications of the Warrantor. This requirement is in addition to the LIMITED WARRANTY.

**Polyethylene and fiberglass tanks** – These tanks are warranted for the storage and transport of water, herbicide solutions (on farm), liquid fertilizer and liquid feed. Such tanks should not be used for the storage of any bulk herbicide (undiluted). Any such use will render this warranty void.

In addition, the Warrantor makes no warranty with regard to bulkhead tank fittings used in connection with tanks containing bulk herbicides and the use of any such fittings sold by the Warrantor or any WYLIE dealer in connection with tanks containing bulk herbicides is improper.

**Chemical Incompatibility** – The Warrantor does not make any recommendations or warranties regarding chemical compatibility. WYLIE shall not be liable for any damages due to chemical incompatibility, and any Buyer or user should rely solely on written information furnished by the chemical manufacturer regarding chemical compatibility.

No employee of WYLIE Mfg. Co., or its representatives, agents or dealers, is authorized to vary the terms of this limited warranty.

Wylie Manufacturing Company
702 E. 40th St.
Lubbock, TX 79404
Ph. 888-788-7753

# Power Sprayer Skids and Trailers

| | | |
|---|---|---|
| **Date of Purchase** | | |
| **Model Number** | | **Primary Use of Applicator:** |
| **Skid/Trailer Serial Number** | | ☐ Herbicide Sprayer ☐ Pest Control |
| **Tank Serial Number** | | |
| **Pump Model** | | ☐ Livestock Sprayer ☐ Tree Sprayer |
| **Wylie Invoice Number** | | ☐ De-Icing ☐ Other |
| **Owner's Name** | | |
| **Address** | | |
| **City** | **State** | **Zip** |
| **Phone** | | |
| **Email** | | |
| **Dealer** | | |

_____

**Owner's Signature**

**Must be returned within 10 days to validate the warranty.**

**-- Or Register Online --**
**Go to: www.wyliesprayers.com**

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# Safety Precautions

**Be alert when you see the above symbol in the manual. It warns of a hazard which might lead to injury. It means: *Attention! Become alert! Your safety is Involved!***

Three (3) words (Danger, Warning, and Caution) are associated with this symbol.

***DANGER –*** Indicates a hazardous situation, which, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations.

***WARNING –*** Indicates a hazardous situation, which, if not avoided, could result in death or serious injury.

***CAUTION –*** Indicates a hazardous situation, which, if not avoided, may result in minor or moderate injury.

***NOTICE –*** Indicates information considered important, but not hazard-related (e.g., messages relating to property damage).

***SAFETY INSTRUCTIONS -*** Indicates a type of safety sign where specific safety-related instructions or procedures are described.

## Before Use

**Do not operate sprayer until this manual has been read and understood!**

* Thoroughly read and understand all instructions before operating this sprayer. If you have questions, please contact ***Wylie Manufacturing, 702 E. 40th St., Lubbock, TX, 79404. (888) 788-7753.*** You can also contact your nearest ***Wylie Spray Center***.
* Always wear safety goggles, chemical resistant apron and rubber gloves when handling chemicals.
* Read and understand the chemical manufacturer's safety guidelines on handling, mixing and application.
* Secure the skid to the bed of the truck to prevent the sprayer from sliding off the truck.
* Always check where you are going to spray. Be sure that people, non-targeted animals, etc. are not in the path of the spray or overspray.
* Check on wind speed and direction. Make sure that sprayed chemical will not drift to non-target area.

## During Use

* Do not allow anyone to ride on sprayer during operation. Falling can cause injury.
* Reduce speed when crossing uneven or rough terrain.
* Always turn off engine before making adjustments or repairs.
* Do not point the gun toward people. Trigger might be accidentally engaged, exposing people to chemical.
* Never add gasoline to an engine that is running. Turn off engine and let cool for several minutes before adding fuel. **Adding gasoline to an operating engine could cause an explosion and fire resulting in serious injury or death.**

## After Use

* Inspect sprayer for wear or damage.
* Ensure that all fasteners and fittings are tight.
* Flush tank and pump with fresh water. Dispose of flush water using appropriate means.
* Carry out maintenance and/or lubrication procedures as outlined in this manual.
* During cold weather, flush the pump and plumbing with an anti-freeze solution to prevent freeze damage to components.

## Always

* Keep hands, feet and clothing away from moving parts.
* Wear protective clothing and gloves when working with chemicals.
* Assure that the hitch is attached to the proper size ball.
* Attach the safety chains and breakaway brake cable to the tow vehicle.
* Plug the lights into the tow vehicle.

## Operator's Instructions

* Reduce speed when turning, crossing slopes and on rough, slick or muddy surfaces.
* Do not permit others to ride on sprayer.
* Roll up hoses and secure trigger gun before transporting sprayer.
* Take care to prevent spilling of chemical.
* Know where you are going to spray. Do not spray non-targeted areas.

**Wylie Manufacturing, 702 E. 40th St., Lubbock, TX 79404**

### Reporting Safety Defects

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying Wylie Manufacturing.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or Wylie Manufacturing.

To contact NHTSA you may either call the Auto Safey Hotline toll-free at 1-888-327-4236 (TTY: 1-800-424-9153); go to http://www.safercar.gov; or write to:

**NHTSA**
**U. S. Department of Transportation**
**12000 New Jersey SE**
**Washington, DC 20590**

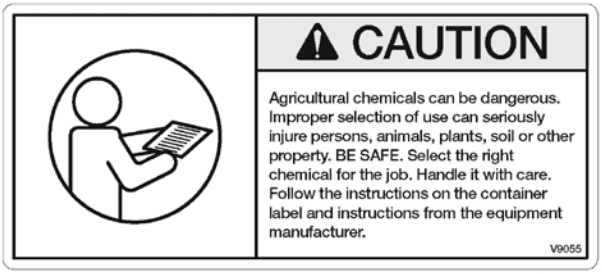
You can also obtain other information about motor vehicle safety from the http://www.safercar.gov.

## *Safety Decals & Placement*

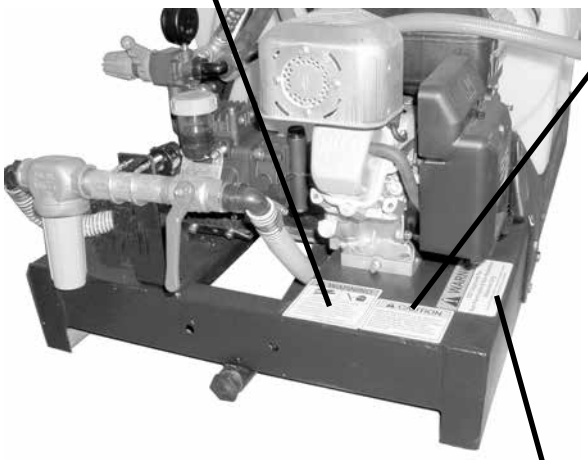
# *Power Sprayer Skids and Trailers*

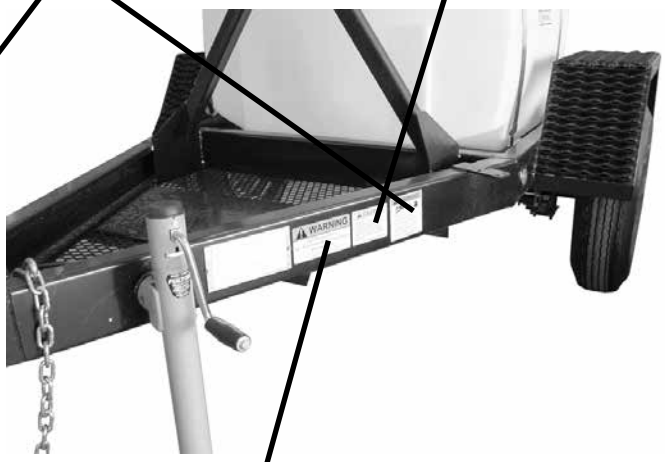
WARNING
HIGH-PRESSURE FLUID HAZARD
To prevent serious injury or death:
• Relieve pressure on system before repairing or adjusting or disconnecting.
• Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.
• Keep all components in good repair.
SW700

***Decal #SW700***


CAUTION
Agricultural chemicals can be dangerous. Improper selection of use can seriously injure persons, animals, plants, soil or other property. BE SAFE. Select the right chemical for the job. Handle it with care. Follow the instructions on the container label and instructions from the equipment manufacturer.
V9055

***Decal #V9055***





WARNING
DOT Approved For
Non-Flammable & Non-Hazardous
Materials Only
Transporting flammable or hazardous materials in this trailer may be dangerous and unlawful.

***Decal #V9020***

**Contact us at mail@wyliesprayers.com or 888-788-7753 to order safety decal or manual replacements.**

# Introduction

The Wylie Power Sprayer Skids and Trailers are the result of years of testing and field proven experience. They are built of the finest materials and expert workmanship to provide you with years of reliable service. The Power Sprayer is available in either a skid or trailer version, in capacities from 50-500 gallons.

The Power Sprayers are designed to be versatile sprayers in the areas of landscape spraying, pest control, livestock spraying, tree spraying, washing and cleaning, remote spot watering, de-icing and a host of other uses.

This manual explains where and how to make necessary adjustments to your sprayer for safe and proper operation. Thoroughly read and understand the contents of this manual before operating your sprayer. If you have questions or do not understand particular items, contact your nearest Wylie Spray Center or call Wylie Manufacturing at (888) 788-7753. Please keep this manual handy to answer questions you may have as they arise.

***Pay Particular Attention To All Safety Suggestions –*** Their purpose is to assure safe operation of the sprayer and prevent injury or damage to yourself or the unit.

## *Power Sprayer Skid Specifications*

| Model | Capacity (gal.) | Frame Length | Overall Length w/reel | Frame Width | Overall Width | Height | Empty Weight |
|---|---|---|---|---|---|---|---|
| PS50 | 50 | 50" | 63" | 27" | 27" | 41" | 270 lb |
| PS100L | 100 | 68" | 81" | 29½" | 31½" | 41" | 320 lb |
| PS100 | 100 | 51½" | 64½" | 47½" | 47½" | 41" | 330 lb |
| PS200 | 200 | 67" | 80" | 40" | 44" | 44" | 420 lb |
| PS300F | 300 | 60" | 61" | 65½" | 68" | 62" | 535 lb |
| PS300 | 300 | 95½" | 110" | 37½" | 51" | 41" | 700 lb |
| PS500 | 500 | 101" | 115½" | 48" | 57" | 46" | 805 lb |

## *Power Sprayer Trailer Specifications*

| Model | Capacity (gal.) | Overall Length | Track Width | Overall Width | Height | GVWR |
|---|---|---|---|---|---|---|
| PS100T | 100 | 118" | 53½" | 61" | 56" | 2,350 lb |
| PS200T | 200 | 116" | 64" | 72" | 58" | 2,950 lb |
| PS300T | 300 | 140" | 64" | 73" | 59" | 4,100 lb |
| PS500T | 500 | 147" | 66" | 78" | 62" | 5,975 lb |

# Inspection & Setup

Your Wylie Power Sprayer was manufactured to the highest standards of quality. It is necessary though, to check to make sure that nothing was damaged during shipping. Check bolts and fasteners for tightness, especially lug nuts. Check the motor/pump, plumbing and hose reel for any signs of damage.

Your Wylie Power Sprayer was completely assembled at the factory and should not need any additional assembly before use.

Check the engine for proper oil level (see engine owner's manual for proper procedure).

## Mounting Skid on Truck/Pickup

Make sure that the vehicle that will carry the skid Power Sprayer is designed to carry the unit when full of water. Water weighs 8.34 lb/gal. Therefore, a 500 gallon Power Sprayer skid can weigh almost 5,000 lbs. when fully loaded.

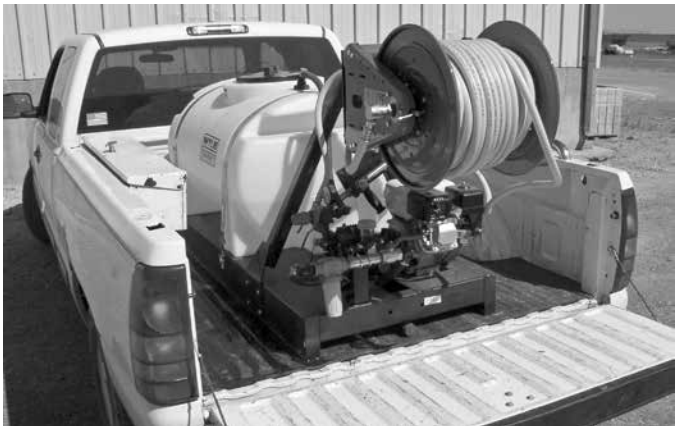


*Figure A1*
*Mounted Skid Sprayer in Truck*

**NOTICE**

***Use caution when picking up the skid from the side. Assure that the center of gravity is between the forks of a forklift to prevent tipping.***

When picking up a skid sprayer from the side, be aware that the center of gravity is not at the center of the frame due to the weight of the engine and pump.

**NOTICE**

***Skid sprayer must be secured to the bed of the truck. Failure to do so could result in the sprayer falling off the truck or damage to the sprayer and truck.***

Carefully set the skid on the truck bed or slide the skid between the wheel wells of a pickup. It is suggested that the tank is positioned close to the cab for best weight distribution as well as better accessibility to the engine and hose reel.

Firmly secure the sprayer to the vehicle to prevent damage to the sprayer or vehicle.

*Figure A2*
*200 Gallon Skid Properly Mounted With Tailgate Closed*

## Attaching Trailer to Vehicle

Power Sprayer trailers require a 2" ball for proper fit. Open the 2" hitch by depressing the trigger and rotating the hitch handle upward until the hitch locks open. Align the truck under the hitch and lower the hitch onto the ball by rotating the jack handle counterclockwise. Rotate the hitch handle until the trigger locks in place. Secure the hitch handle with a clip pin. (See Figure A3)

**NOTICE**

***DOT regulations in some states require the safety chains to be crossed. Check the regulations in your state for specific instructions.***

Attach the safety chains to the eyelets.

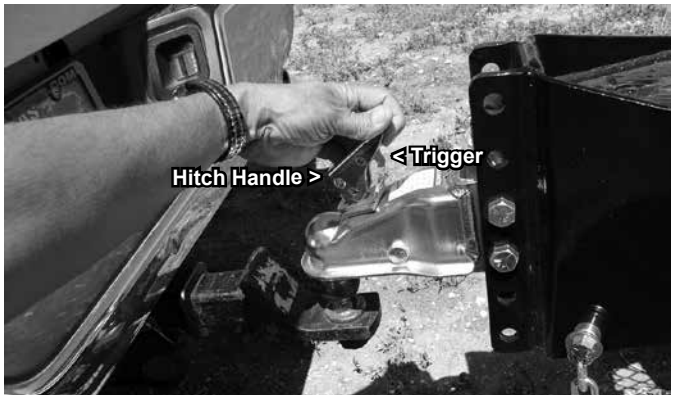



*Figure A3*
*Rotate Lock Tab To Open 2" Hitch*

Electric brake trailers have a battery powered breakaway brake system that activates the trailer brakes if the trailer becomes unhitched from the truck while travelling. Attach the brake cable to the hitch.

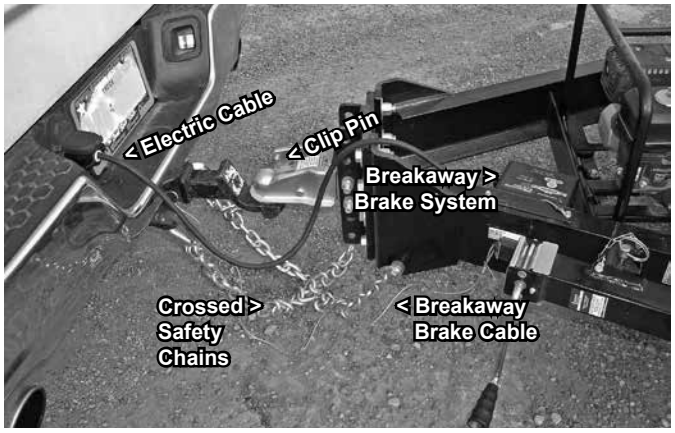



*Figure A4*
*Trailer Hitch Details*

Plug the light cable into the truck light socket. Check the lights to make sure that the clearance, turn, brake and tail lights are working properly.

Pull the jack pin and rotate the jack or remove the jack from the mount collar.

The Wylie DOT tag trailer is equipped with a height adjustable hitch. The trailer should travel level when the tank is full. To level the hitch, lower the jack to support the tongue, remove the hitch bolts, adjust the tongue height as needed, and reinsert the hitch bolts.

A seven prong plug is provided with the trailer. If your vehicle is not equipped with a corresponding receptacle, change either the vehicle or trailer to match. If your vehicle does have a seven prong receptacle, insert the trailer plug and check to make sure that the two plugs are properly matched i.e. brakes, lights and turn signals operate in the correct order.

The DOT trailer is equipped with a breakaway brake kit that will engage the electric trailer brakes if the trailer comes unhooked from the truck. The breakaway brake kit consists of a battery that is charged by the electrical system and an engaging switch that is activated when a plug is pulled from the switch by a cable. The breakaway brake cable should be attached to the truck.

*Figure A5*
*Test Button on Breakaway Brake System*

The breakaway brake system is equipped with a test button and lights to show the status of the breakaway system battery. Depress the test button to see the status.

## Electric Hose Reel

If your sprayer is equipped with an electric hose reel, you may or may not need additional set-up. Sprayers that include an electric start engine will have the reel wired to the sprayer motor battery and will not need any additional set-up.

Sprayers with a pull start engine will require an auxiliary power source for the electric hose reel. If an optional battery was ordered with the sprayer, the necessary wiring has been completed and the reel is ready for operation.

## NOTICE

***Powering the electric hose reel through the trailer electrical system can damage the trailer wiring. Connect to vehicle battery with 4 gauge cable.***

The hose reel can be powered by the vehicle battery. It will be necessary to route 4 gauge battery cables from the reel to the vehicle battery. Do not try to power the hose reel directly through the trailer electrical system. The wires are not heavy enough to carry the current. A charger for an auxiliary battery can be powered through the trailer electrical system.

## Inspecting Motor and Pump

Check the oil level in the gasoline engine before initial start-up. Some pumps such as the CDS/John Blue diaphragm pumps have an oil bath crankcase. Check the oil level in the sight glass to assure proper operation.

## Initial Start-up

Add enough water to the spray tank to get above the level of the strainer and ball valve. ***Do not add any chemical to the spray tank until the sprayer has been checked for proper operation.***

Open the ball valve between the tank and pump to allow water to flow to the pump. The valve is open when the valve handle is in line with the valve. Inspect the system for any leaks. Tighten any fittings necessary to stop any leaks. Any water leaking from supply lines before the pump is started, will result in an air leak when the pump is engaged, resulting in low operating pressure.

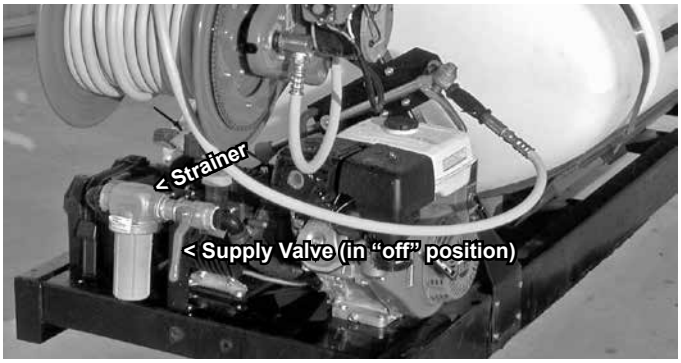



*Figure A6*
*Supply Valve & Strainer*

## Initial Start-up of CDS/John Blue Diaphragm Pump

Open the pressure hose ball valve and the agitator ball valve. Rotate the blue by-pass handle counter-clockwise so that the pump is in full by-pass.

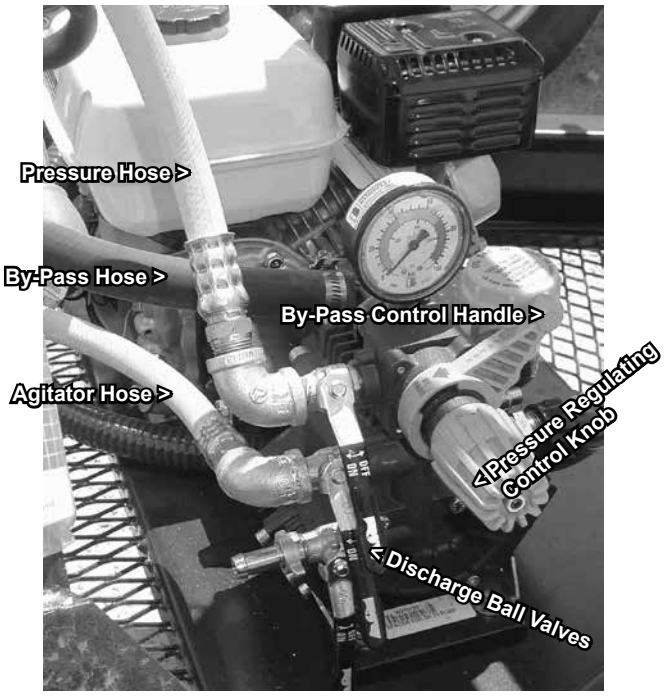



*Figure A7*
*Discharge Controls*

Remove the trigger gun from the gun holder and start the engine. Engage the trigger gun and allow water to flow through the whole system. The pressure may not rise to the desired level until the pressure regulating valve is adjusted.

Once the system has been checked for any leaks in a low pressure setting, the sprayer can be changed to high pressure operation. Close the agitator ball valve and rotate the blue by-pass control handle clockwise to the "pressure" setting. Rotate the pressure regulating control knob to adjust the pressure. Screw the knob "in" to increase the pressure.

Check the system carefully for any leaks. Tighten fittings as necessary.

# Operation

## Adding Chemical

Many applications for Wylie Power Sprayers require chemical agents to be added to a carrier solution.

**⚠ WARNING ⚠**

***Protective clothing and equipment must be worn any time chemicals are being handled. This may include, but not be limited to, rubber gloves, rubber apron, face/eye shield, and respirator. Failure to use protective clothing could result in chemical exposure causing sickness or death.***

Read the chemical manufacture's label for directions for the proper procedure and amount of chemical to add. Once the chemical has been added to the spray tank, start the pump in by-pass mode to allow the chemical to thoroughly mix. (See "Operation" section for detailed instructions.)

## Swivel Hose Reel

All of the hose reels are mounted on a 180º swivel. This swivel can be locked in one of five positions or the pins can be removed to allow the reel to swivel freely.

*Figure B1*
*Swivel Hose Reel Mount*

The Reelcraft reels are equipped with a locking set screw to prevent the reel from unrolling during transport. Loosen the set screw before unrolling the hose.

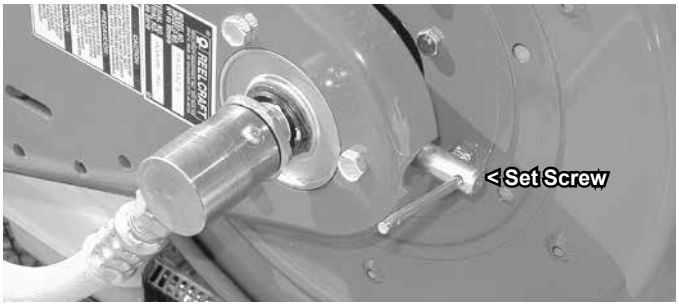



*Figure B2*
*Hose Reel Set Screw*

## Operation

Check the area to be sprayed to make sure that people or non-targeted animals will not be in the path of the spray or drift.

If hazardous chemicals are being sprayed, protective clothing should be worn for protection from chemical exposure.

**⚠ WARNING ⚠**

***Never point the spray toward any part of your body. The high pressure discharge could cause serious bodily injury.***

**Operation of CDS/John Blue Diaphragm Pump**
Always open the main tank valve before starting the engine and pump. Running the pump without fluid will quickly damage the pump.

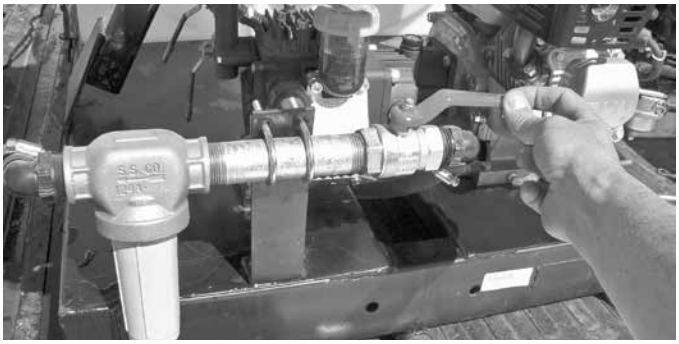


*Figure B3*
*Open Main Tank Valve*

Always start the engine with the pump in the bypass mode. Rotate the blue bypass handle counterclockwise to put the pump in the bypass mode.

*Figure B4*
*Bypass Valve*

Starting procedures will vary for different engines (see engine owner's manual). The Honda manual start engine is very popular on the Wylie Power Sprayers. Turn the engine switch "on" before pulling the rope to start the engine.

*Figure B5*
*Honda Engine Start Switch*

If chemicals need further mixing in the tank, open the agitator ball valve.

*Figure B6*
*Open Agitator Ball Valve*

Once the chemical is thoroughly mixed, close the agitator valve. Remove the trigger gun from the storage frame and unroll a sufficient length of pressure hose. Open the pressure hose ball valve.

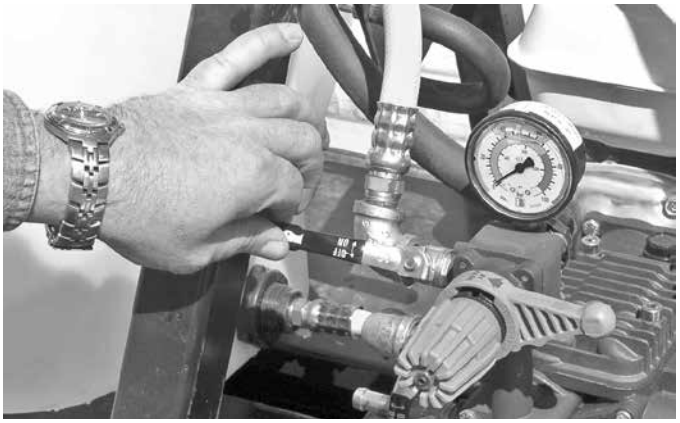


*Figure B7*
*Open Pressure Ball Valve*

Change the pump from bypass mode to pressure mode by rotating the blue handle clockwise.

*Figure B8*
*Change To Pressure Mode By Rotating Clockwise*

Adjust the pressure by turning the pressure adjustment knob. Screw the knob "in" to increase pressure, "out" to decrease pressure. The maximum pressure built by the CDS/John Blue diaphragm pump in 580 psi. Do not set the pressure above 600 psi.

*Figure B9*
*Adjusting Pressure*

The agitator valve can be partially opened, if desired, to keep the chemical in suspension. Opening the valve completely, though, will prevent spraying at maximum pressure.

**Operating Other Pump Styles**

Other pump styles are available for the Wylie Power Sprayers such as roller and centrifugal pumps. The controls for the roller pump will be similar to the diaphragm pump, i.e. an adjusting valve varies pressure and provides bypass. The centrifugal pump has an agitator valve. The primary point to remember is that the main tank valve must be open to feed fluid to the pump and any air leak on the suction side of the pump will prevent the pump from achieving operating pressure.

**Operating The Trigger Gun**

The Hypro Long-Throw trigger gun sprays in a range from a powerful straight stream to a wide angle mist. The rear trigger handle turns the spray on or off. The front handle adjusts the angle of the spray by rotating the handle forward or backward. Pulling the handle back creates a straight stream. Push the handle forward for a wide angle spray.

*Figure B10*
*Handle Back -- Straight* *Handle Forward -- Wide Angle*

**Special Operating Instructions For Twin Tank Power Sprayers**

**NOTICE**

***If agitation is used, it is imperative that the suction and agitator valves be open for the same tank. Failure to do so could mix the chemicals and overflow the agitated tank.***

The Twin Tank Power Sprayers are equipped with separate agitator systems for each tank. Open the suction ball valve for the desired tank. To prevent contamination between the tanks, make sure that only one suction valve is opened at a time. Opening both valves, especially when the pump is turned off, will allow fluid to flow between the tanks until the volume is equalized.

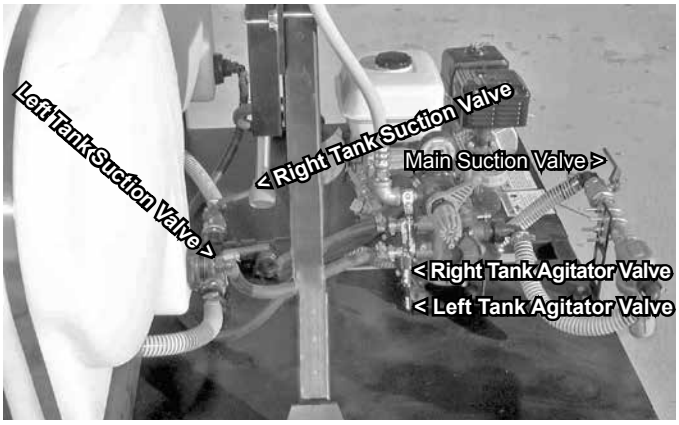



*Figure B11*
*Twin Tank Suction & Agitator Valves*

When the pump is operating and agitation is desired, make sure that the agitator valve and suction valve for the same tank are open. Opening the wrong agitator valve will contaminate the tank being agitated and could overflow that tank.

A variety of options can be added to the Power Sprayer for specific applications.

## Walking Boom

The walking boom can be quick coupled to the pressure hose for even applications on lawns and landscape. Check the TeeJet nozzle manual for recommended pressure and tip selection for specific applications. Generally, broadcast spraying requires less than 50 psi.

*Figure B12*
*Walking Boom*

The walking boom can be adjusted for proper boom height and folded for easy access through gates.

## Flat Fold Boom

The flat fold boom mounts to the receiver hitch on many pickups. The Power Sprayer trailers have mounting holes for a flat fold boom mount. The flat fold boom height can be adjusted with several holes in the mount tube. The boom is equipped with breakaway springs to protect the boom when an obstruction is hit as well as to fold the boom for transport. To unfold the boom for spraying, manually unfold each section of the boom 180º, then unfold the outer extensions vertically.

*Figure B13*
*Flat Fold Boom*

Check the TeeJet nozzle manual for recommended pressure and tip selection for specific applications. Generally, broadcast spraying requires less than 50 psi.

## Fresh Water Tank

A fresh water tank is designed especially for the twin tank power sprayer but can be mounted to other models as well. The fresh water tank features a spigot for hand washing. Additionally, the fresh water tank can flush chemical from the tank and lines when two chemicals are stored in the twin tanks. Close the tank ball valve and open the fresh water tank valve. Start the engine and pump fresh water through the system.

*Figure B14*
*Fresh Water Tank*

## End of Day Procedure

Some chemicals may require the pump to be flushed at the end of each day to prevent corrosion. If so, add several gallons of fresh water to the spray tank and pump through the system**.** Check the oil level in the engine and pump as well as for any loose or damaged fittings. Repair as necessary.

## End of Season Procedure

The sprayer must be protected from freezing during winter months. If the sprayer is not to be used, drain the spray tank and add an anti-freeze solution. Start the pump and circulate the anti-freeze solution through the sprayer. Simply draining water from the spray tank will not adequately protect the sprayer from freezing.

# Maintenance

## Strainer Maintenance

From time to time it may be necessary to clean the strainer of debris that has collected. Low pump pressure and volume is an indication that the strainer is clogged and needs cleaning.

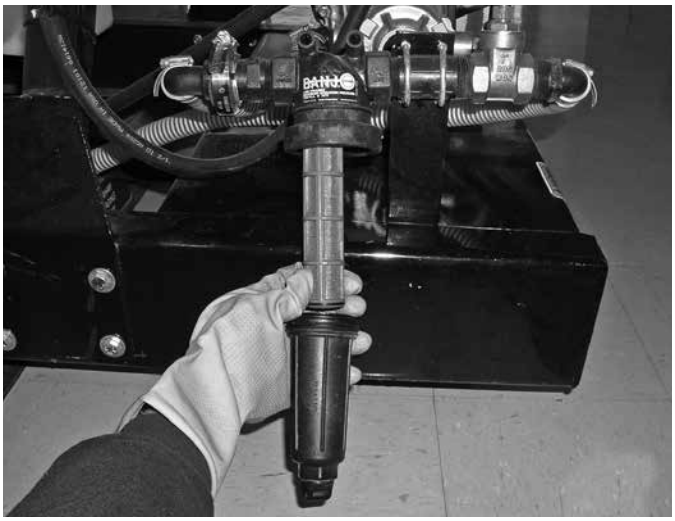


*Figure C1*
*Removing Strainer*

With the engine shut off, close the suction ball valve and remove the strainer bowl. Empty and rinse the bowl and clean the screen as needed. Make sure the O-ring that seals the bowl to the base is not lost when the bowl is removed. Firmly hand tighten the bowl to the base and open the suction ball valve.

## Engine/Pump Maintenance

The engine and pump each has an owner's manual printed by the respective manufacturer that has been included with this manual. If you did not receive a pump or engine manual, contact Wylie Customer Service at 888-788-7753 to request a manual.

Refer to the manufacturer's manual for recommended service and maintenance.

## Spray Tank

The spray tank may be manufactured from either natural white or "algae resistant" black resin. If water only is to be sprayed from a white tank it may be necessary to add a small amount of bleach to the tank to prevent the growth of algae which will discolor the interior of a white tank.

# *Troubleshooting Guidelines*

| Problem | Cause | Solution |
|---|---|---|
| Engine Will Not Operate | (1) Engine out of gasoline<br>(2) Engine controls not set properly<br>(3) Malfunctioning engine | (1) Add gasoline to fuel tank<br>(2) See manufacturer's manual<br>(3) See manufacturer's manual |
| Pump Will Not Operate | (1) Malfunctioning pump | (1) See pump owner's manual or contact Wylie |
| Pump will not move solution | (1) Spray tank empty<br>(2) Tank ball valve closed<br>(3) Plugged strainer<br>(4) Malfunctioning pump | (1) Fill tank<br>(2) Open ball valve<br>(3) Clean strainer screen<br>(4) See pump owner's manual or contact Wylie Spray Center |
| Pump output is very low; erratic | (1) Spray tank low; air getting in pump<br>(2) Tank ball valve partially closed<br>(3) Plugged strainer<br>(4) Collapsed suction hose<br>(5) Air leak in suction system<br>(6) Control bypass engaged<br>(7) Pressure control knob set too low<br>(8) Malfunctioning pump | (1) Fill tank; bleed air by removing top plug<br>(2) Open ball valve<br>(3) Clean strainer screen<br>(4) Replace suction hose<br>(5) Tighten fittings;<br>Check for cracked or cut components;<br>Apply thread sealant to pipe threads.<br>(6) Close "blue" bypass lever<br>(7) Screw pressure control knob "in" to increase pressure<br>(8) See pump owner's manual or contact Wylie Spray Center |
| No output or insufficient pressure at spray tip(s) | (1) Air leak in suction side of system<br>(2) Problem with pump<br>(3) Control valve malfunctioning<br>(4) Control bypass engaged<br>(5) Pressure hose ball valve closed<br>(6) Spray tips not proper size | (1) See above<br>(2) See above<br>(3) Replace pressure adjusting valve;<br>See controller owner's manual or contact Wylie Spray Center<br>(4) Close "blue" bypass lever<br>(5) Open pressure hose ball valve<br>(6) Replace with proper tip |
| Hypro trigger gun spray pattern is incorrect | (1) Front handle in wrong position | (1) Pull front handle "back" for straight stream<br>Push front handle "forward" for wide stream |

Tire Safety Information

# 1. TIRE SAFETY INFORMATION

This portion of the User's Manual contains tire safety information as required by 49 CFR 575.6.

Section 2.1 contains "Steps for Determining Correct Load Limit - Trailer".

Section 2.2 contains "Steps for Determining Correct Load Limit – Tow Vehicle".

Section 2.3 contains a Glossary of Tire Terminology, including "cold inflation pressure", "maximum inflation pressure", "recommended inflation pressure", and other non-technical terms.

Section 2.4 contains information from the NHTSA brochure entitled "Tire Safety – Everything Rides On It". This brochure This brochure, as well as the preceding subsections, describes the following items;

- Tire labeling, including a description and explanation of each marking on the tires, and information about the DOT Tire Identification Number (TIN).
- Recommended tire inflation pressure, including a description and explanation of:
  A. Cold inflation pressure.
  B. Vehicle Placard and location on the vehicle.
  C. Adverse safety consequences of under inflation (including tire failure).
  D. Measuring and adjusting air pressure for proper inflation.
- Tire Care, including maintenance and safety practices.
- Vehicle load limits, including a description and explanation of the following items:
  A. Locating and understanding the load limit information, total load capacity, and cargo capacity.
  B. Calculating total and cargo capacities with varying seating configurations including quantitative examples showing / illustrating how the vehicles cargo and luggage capacity decreases as combined number and size of occupants' increases. This item is also discussed in Section 3.
  C. Determining compatibility of tire and vehicle load capabilities.
  D. Adverse safety consequences of overloading on handling and stopping on tires.

## 1.1. STEPS FOR DETERMINING CORRECT LOAD LIMIT – TRAILER

Determining the load limits of a trailer includes more than understanding the load limits of the tires alone. On all trailers there is a Federal certification/VIN label that is located on the forward half of the left (road) side of the unit. This certification/VIN label will indicate the trailer's Gross Vehicle Weight Rating (GVWR). This is the most weight the fully loaded trailer can weigh. It will also provide the Gross Axle Weight Rating (GAWR). This is the most a particular axle can weigh. If there are multiple axles, the GAWR of each axle will be provided.

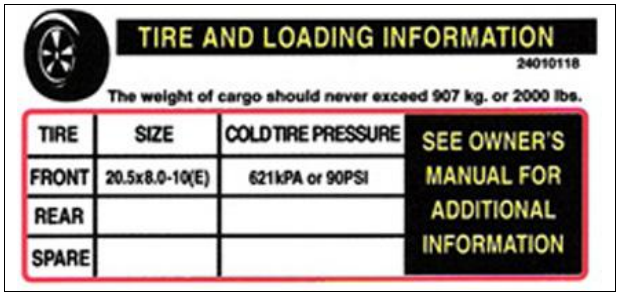
If your trailer has a GVWR of 10,000 pounds or less, there is a vehicle placard located in the same location as the certification label described above. This placard provides tire and loading information. In addition, this placard will show a statement regarding maximum cargo capacity. Cargo can be added to the trailer, up to the maximum weight specified on the placard. The combined weight of the cargo is provided as a single number. In any case, remember: the total weight of a fully loaded trailer can not exceed the stated GVWR.

For trailers with living quarters installed, the weight of water and propane also need to be considered. The weight of fully filled propane containers is considered part of the weight of the trailer before it is loaded with cargo, and is not considered part of the disposable cargo load. Water however, is a disposable cargo weight and is treated as such. If there is a fresh water storage tank of 100 gallons, this tank when filled would weigh about 800 pounds. If more cargo is being transported, water can be off-loaded to keep the total amount of cargo added to the vehicle within the limits of the GVWR so as not to overload the vehicle. Understanding this flexibility will allow you, the owner, to make choices that fit your travel needs.

When loading your cargo, be sure it is distributed evenly to prevent overloading front to back and side to side. Heavy items should be placed low and as close to the axle positions as reasonable. Too many items on one side may overload a tire. The best way to know the actual weight of the vehicle is to weigh it at a public scale. Talk to your dealer to discuss the weighing methods needed to capture the various weights related to the trailer. This would include the weight empty or unloaded, weights per axle, wheel, hitch or king-pin, and total weight.

Excessive loads and/or underinflation cause tire overloading and, as a result, abnormal tire flexing occurs. This situation can generate an excessive amount of heat within the tire. Excessive heat may lead to tire failure. It is the air pressure that enables a tire to support the load, so proper inflation is critical. The proper air pressure may be found on the certification/VIN label and/or on the Tire Placard. This value should never exceed the maximum cold inflation pressure stamped on the tire.

#### 1.1.1. TRAILERS 10,000 POUNDS GVWR OR LESS




Tire and Loading Information Placard – Figure 1-1

1. Locate the statement, "The weight of cargo should never exceed XXX kg or XXX lbs.," on your vehicle's placard. See figure 1-1.
2. This figure equals the available amount of cargo and luggage load capacity.
3. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage load capacity.

The trailer's placard refers to the Tire Information Placard attached adjacent to or near the trailer's VIN (Certification) label at the left front of the trailer.

#### 1.1.2. TRAILERS OVER 10,000 POUNDS GVWR (NOTE: THESE TRAILERS ARE NOT REQUIRED TO HAVE A TIRE INFORMATION PLACARD ON THE VEHICLE)

1. Determine the empty weight of your trailer by weighing the trailer using a public scale or other means. This step does not have to be repeated.
2. Locate the GVWR (Gross Vehicle Weight Rating) of the trailer on your trailer's VIN (Certification) label.
3. Subtract the empty weight of your trailer from the GVWR stated on the VIN label. That weight is the maximum available cargo capacity of the trailer and may not be safely exceeded.

### 1.2. STEPS FOR DETERMINING CORRECT LOAD LIMIT – TOW VEHICLE

1. Locate the statement, "The combined weight of occupants and cargo should never exceed XXX lbs.," on your vehicle's placard.
2. Determine the combined weight of the driver and passengers who will be riding in your vehicle.
3. Subtract the combined weight of the driver and passengers from XXX kilograms or XXX pounds.
4. The resulting figure equals the available amount of cargo and luggage capacity. For example, if the "XXX" amount equals 1400 lbs. and there will be five 150 lb. passengers in your vehicle, the amount of available cargo and luggage capacity is 650 lbs. (1400-750 (5 x 150) = 650 lbs.).
5. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage capacity calculated in Step # 4.
6. If your vehicle will be towing a trailer, load from your trailer will be transferred to your vehicle. Consult the tow vehicle's manual to determine how this weight transfer reduces the available cargo and luggage capacity of your vehicle.

### 1.3. GLOSSARY OF TIRE TERMINOLOGY

**Accessory weight**
The combined weight (in excess of those standard items which may be replaced) of automatic transmission, power steering, power brakes, power windows, power seats, radio and heater, to the extent that these items are available as factory-installed equipment (whether installed or not).

**Bead**
The part of the tire that is made of steel wires, wrapped or reinforced by ply cords and that is shaped to fit the rim.

**Bead separation**
This is the breakdown of the bond between components in the bead.

**Bias ply tire**
A pneumatic tire in which the ply cords that extend to the beads are laid at alternate angles substantially less than 90 degrees to the centerline of the tread.

**Carcass**
The tire structure, except tread and sidewall rubber which, when inflated, bears the load.

**Chunking**
The breaking away of pieces of the tread or sidewall.

**Cold inflation pressure**
The pressure in the tire before you drive.
**Cord**
The strands forming the plies in the tire.

**Cord separation**
The parting of cords from adjacent rubber compounds.

**Cracking**
Any parting within the tread, sidewall, or inner liner of the tire extending to cord material.

**CT**
A pneumatic tire with an inverted flange tire and rim system in which the rim is designed with rim flanges pointed radially inward and the tire is designed to fit on the underside of the rim in a manner that encloses the rim flanges inside the air cavity of the tire.

**Curb weight**
The weight of a motor vehicle with standard equipment including the maximum capacity of fuel, oil, and coolant, and, if so equipped, air conditioning and additional weight optional engine.

**Extra load tire**
A tire designed to operate at higher loads and at higher inflation pressures than the corresponding standard tire.

**Groove**
The space between two adjacent tread ribs.

**Gross Axle Weight Rating**
The maximum weight that any axle can support, as published on the Certification / VIN label on the front left side of the trailer. Actual weight determined by weighing each axle on a public scale, with the trailer attached to the towing vehicle.

**Gross Vehicle Weight Rating**
The maximum weight of the fully loaded trailer, as published on the Certification / VIN label. Actual weight determined by weighing trailer on a public scale, without being attached to the towing vehicle.

**Hitch Weight**
The downward force exerted on the hitch ball by the trailer coupler.

**Innerliner**
The layer(s) forming the inside surface of a tubeless tire that contains the inflating medium within the tire.

**Innerliner separation**
The parting of the innerliner from cord material in the carcass.

**Intended outboard sidewall**
The sidewall that contains a white-wall, bears white lettering or bears manufacturer, brand, and/or model name molding that is higher or deeper than the same molding on the other sidewall of the tire or the outward facing sidewall of an asymmetrical tire that has a particular side that must always face outward when mounted on a vehicle.

**Light truck (LT) tire**
A tire designated by its manufacturer as primarily intended for use on lightweight trucks or multipurpose passenger vehicles.

**Load rating**
The maximum load that a tire is rated to carry for a given inflation pressure.

**Maximum load rating**
The load rating for a tire at the maximum permissible inflation pressure for that tire.

**Maximum permissible inflation pressure**
The maximum cold inflation pressure to which a tire may be inflated.

**Maximum loaded vehicle weight**
The sum of curb weight, accessory weight, vehicle capacity weight, and production options weight.

**Measuring rim**
The rim on which a tire is fitted for physical dimension requirements.

**Pin Weight**
The downward force applied to the 5$^{th}$ wheel or gooseneck ball, by the trailer kingpin or gooseneck coupler.

**Non-pneumatic rim**
A mechanical device which, when a non-pneumatic tire assembly incorporates a wheel, supports the tire, and attaches, either integrally or separably, to the wheel center member and upon which the tire is attached.

**Non-pneumatic spare tire assembly**
A non-pneumatic tire assembly intended for temporary use in place of one of the pneumatic tires and rims that are fitted to a passenger car in compliance with the requirements of this standard.

**Non-pneumatic tire**
A mechanical device which transmits, either directly or through a wheel or wheel center member, the vertical load and tractive forces from the roadway to the vehicle, generates the tractive forces that provide the directional control of the vehicle and does not rely on the containment of any gas or fluid for providing those functions.

**Non-pneumatic tire assembly**
A non-pneumatic tire, alone or in combination with a wheel or wheel center member, which can be mounted on a vehicle.

**Normal occupant weight**
This means 68 kilograms (150 lbs.) times the number of occupants specified in the second column of Table I of 49 CFR 571.110.

**Occupant distribution**
The distribution of occupants in a vehicle as specified in the third column of Table I of 49 CFR 571.110.

**Open splice**
Any parting at any junction of tread, sidewall, or innerliner that extends to cord material.

**Outer diameter**
The overall diameter of an inflated new tire.

**Overall width**

The linear distance between the exteriors of the sidewalls of an inflated tire, including elevations due to labeling, decorations, or protective bands or ribs.

**Ply**
A layer of rubber-coated parallel cords.

**Ply separation**
A parting of rubber compound between adjacent plies.

**Pneumatic tire**
A mechanical device made of rubber, chemicals, fabric and steel or other materials, that, when mounted on an automotive wheel, provides the traction and contains the gas or fluid that sustains the load.

**Production options weight**
The combined weight of those installed regular production options weighing over 2.3 kilograms (5 lbs.) in excess of those standard items which they replace, not previously considered in curb weight or accessory weight, including heavy duty brakes, ride levelers, roof rack, heavy duty battery, and special trim.

**Radial ply tire**
A pneumatic tire in which the ply cords that extend to the beads are laid at substantially 90 degrees to the centerline of the tread.

**Recommended inflation pressure**
This is the inflation pressure provided by the vehicle manufacturer on the Tire Information label and on the Certification / VIN tag.

**Reinforced tire**
A tire designed to operate at higher loads and at higher inflation pressures than the corresponding standard tire.

**Rim**
A metal support for a tire or a tire and tube assembly upon which the tire beads are seated.

**Rim diameter**
This means the nominal diameter of the bead seat.

**Rim size designation**
This means the rim diameter and width.

**Rim type designation**
This means the industry of manufacturer's designation for a rim by style or code.

**Rim width**
This means the nominal distance between rim flanges.

**Section width**
The linear distance between the exteriors of the sidewalls of an inflated tire, excluding elevations due to labeling, decoration, or protective bands.

**Sidewall**
That portion of a tire between the tread and bead.

**Sidewall separation**
The parting of the rubber compound from the cord material in the sidewall.

**Special Trailer (ST) tire**
The "ST" is an indication the tire is for trailer use only.

**Test rim**
The rim on which a tire is fitted for testing, and may be any rim listed as appropriate for use with that tire.

**Tread**

That portion of a tire that comes into contact with the road.

**Tread rib**
A tread section running circumferentially around a tire.

**Tread separation**
Pulling away of the tread from the tire carcass.

**Treadwear indicators (TWI)**
The projections within the principal grooves designed to give a visual indication of the degrees of wear of the tread.

**Vehicle capacity weight**
The rated cargo and luggage load plus 68 kilograms (150 lbs.) times the vehicle's designated seating capacity.

**Vehicle maximum load on the tire**
The load on an individual tire that is determined by distributing to each axle its share of the maximum loaded vehicle weight and dividing by two.

**Vehicle normal load on the tire**
The load on an individual tire that is determined by distributing to each axle its share of the curb weight, accessory weight, and normal occupant weight (distributed in accordance with Table I of CRF 49 571.110) and dividing by 2.

**Weather side**
The surface area of the rim not covered by the inflated tire.

**Wheel center member**
In the case of a non-pneumatic tire assembly incorporating a wheel, a mechanical device which attaches, either integrally or separably, to the non-pneumatic rim and provides the connection between the non-pneumatic rim and the vehicle; or, in the case of a non-pneumatic tire assembly not incorporating a wheel, a mechanical device which attaches, either integrally or separably, to the non-pneumatic tire and provides the connection between tire and the vehicle.

**Wheel-holding fixture**
The fixture used to hold the wheel and tire assembly securely during testing.

## 1.4. TIRE SAFETY - EVERYTHING RIDES ON IT

The National Traffic Safety Administration (NHTSA) has published a brochure (DOT HS 809 361) that discusses all aspects of Tire Safety, as required by CFR 575.6. This brochure is reproduced in part below. It can be obtained and downloaded from NHTSA, free of charge, from the following web site:

http://www.nhtsa.dot.gov/cars/rules/TireSafety/ridesonit/tires_index.html

Studies of tire safety show that maintaining proper tire pressure, observing tire and vehicle load limits (not carrying more weight in your vehicle than your tires or vehicle can safely handle), avoiding road hazards, and inspecting tires for cuts, slashes, and other irregularities are the most important things you can do to avoid tire failure, such as tread separation or blowout and flat tires. These actions, along with other care and maintenance activities, can also:

- Improve vehicle handling
- Help protect you and others from avoidable breakdowns and accidents
- Improve fuel economy
- Increase the life of your tires.

This booklet presents a comprehensive overview of tire safety, including information on the following topics:
- Basic tire maintenance
- Uniform Tire Quality Grading System
- Fundamental characteristics of tires

- Tire safety tips.

Use this information to make tire safety a regular part of your vehicle maintenance routine. Recognize that the time you spend is minimal compared with the inconvenience and safety consequences of a flat tire or other tire failure.

## 1.5. SAFETY FIRST–BASIC TIRE MAINTENANCE

Properly maintained tires improve the steering, stopping, traction, and load-carrying capability of your vehicle. Underinflated tires and overloaded vehicles are a major cause of tire failure. Therefore, as mentioned above, to avoid flat tires and other types of tire failure, you should maintain proper tire pressure, observe tire and vehicle load limits, avoid road hazards, and regularly inspect your tires.

### *1.5.1. FINDING YOUR VEHICLE'S RECOMMENDED TIRE PRESSURE AND LOAD LIMITS*

Tire information placards and vehicle certification labels contain information on tires and load limits. These labels indicate the vehicle manufacturer's information including:

- Recommended tire size
- Recommended tire inflation pressure
- Vehicle capacity weight (VCW–the maximum occupant and cargo weight a vehicle is designed to carry)
- Front and rear gross axle weight ratings (GAWR– the maximum weight the axle systems are designed to carry).

Both placards and certification labels are permanently attached to the trailer near the left front.

### *1.5.2. UNDERSTANDING TIRE PRESSURE AND LOAD LIMITS*

Tire inflation pressure is the level of air in the tire that provides it with load-carrying capacity and affects the overall performance of the vehicle. The tire inflation pressure is a number that indicates the amount of air pressure– measured in pounds per square inch (psi)–a tire requires to be properly inflated. (You will also find this number on the vehicle information placard expressed in kilopascals (kpa), which is the metric measure used internationally.)

Manufacturers of passenger vehicles and light trucks determine this number based on the vehicle's design load limit, that is, the greatest amount of weight a vehicle can safely carry and the vehicle's tire size. The proper tire pressure for your vehicle is referred to as the "recommended cold inflation pressure." (As you will read below, it is difficult to obtain the recommended tire pressure if your tires are not cold.)
Because tires are designed to be used on more than one type of vehicle, tire manufacturers list the "maximum permissible inflation pressure" on the tire sidewall. This number is the greatest amount of air pressure that should ever be put in the tire under normal driving conditions.

### *1.5.3. CHECKING TIRE PRESSURE*

It is important to check your vehicle's tire pressure at least once a month for the following reasons:

- Most tires may naturally lose air over time.
- Tires can lose air suddenly if you drive over a pothole or other object or if you strike the curb when parking.
- With radial tires, it is usually not possible to determine underinflation by visual inspection.

For convenience, purchase a tire pressure gauge to keep in your vehicle. Gauges can be purchased at tire dealerships, auto supply stores, and other retail outlets.
The recommended tire inflation pressure that vehicle manufacturers provide reflects the proper psi when a tire is cold. The term cold does not relate to the outside temperature. Rather, a cold tire is one that has not been driven on for at least three hours. When you drive, your tires get warmer, causing the air pressure within them to increase. Therefore, to get an accurate tire pressure reading, you must measure tire pressure when the tires are cold or compensate for the extra pressure in warm tires.

### 1.5.4. STEPS FOR MAINTAINING PROPER TIRE PRESSURE

- Step 1: Locate the recommended tire pressure on the vehicle's tire information placard, certification label, or in the owner's manual.
- Step 2: Record the tire pressure of all tires.
- Step 3: If the tire pressure is too high in any of the tires, slowly release air by gently pressing on the tire valve stem with the edge of your tire gauge until you get to the correct pressure.
- Step 4: If the tire pressure is too low, note the difference between the measured tire pressure and the correct tire pressure. These "missing" pounds of pressure are what you will need to add.
- Step 5: At a service station, add the missing pounds of air pressure to each tire that is underinflated.
- Step 6: Check all the tires to make sure they have the same air pressure (except in cases in which the front and rear tires are supposed to have different amounts of pressure).

If you have been driving your vehicle and think that a tire is underinflated, fill it to the recommended cold inflation pressure indicated on your vehicle's tire information placard or certification label. While your tire may still be slightly underinflated due to the extra pounds of pressure in the warm tire, it is safer to drive with air pressure that is slightly lower than the vehicle manufacturer's recommended cold inflation pressure than to drive with a significantly underinflated tire. Since this is a temporary fix, don't forget to recheck and adjust the tire's pressure when you can obtain a cold reading.

### 1.5.5. TIRE SIZE

To maintain tire safety, purchase new tires that are the same size as the vehicle's original tires or another size recommended by the manufacturer. Look at the tire information placard, the owner's manual, or the sidewall of the tire you are replacing to find this information. If you have any doubt about the correct size to choose, consult with the tire dealer.

### 1.5.6. TIRE TREAD

The tire tread provides the gripping action and traction that prevent your vehicle from slipping or sliding, especially when the road is wet or icy. In general, tires are not safe and should be replaced when the tread is worn down to 1/16 of an inch. Tires have built-in treadwear indicators that let you know when it is time to replace your tires. These indicators are raised sections spaced intermittently in the bottom of the tread grooves. When they appear "even" with the outside of the tread, it is time to replace your tires. Another method for checking tread depth is to place a penny in the tread with Lincoln's head upside down and facing you. If you can see the top of Lincoln's head, you are ready for new tires.

### 1.5.7. TIRE BALANCE AND WHEEL ALIGNMENT

To avoid vibration or shaking of the vehicle when a tire rotates, the tire must be properly balanced. This balance is achieved by positioning weights on the wheel to counterbalance heavy spots on the wheel-and-tire assembly. A wheel alignment adjusts the angles of the wheels so that they are positioned correctly relative to the vehicle's frame. This adjustment maximizes the life of your tires. These adjustments require special equipment and should be performed by a qualified technician.

### 1.5.8. TIRE REPAIR

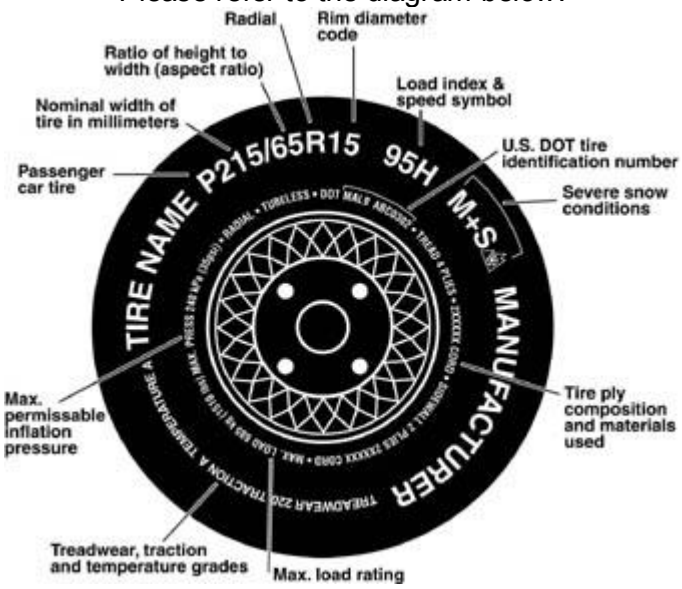
The proper repair of a punctured tire requires a plug for the hole and a patch for the area inside the tire that surrounds the puncture hole. Punctures through the tread can be repaired if they are not too large, but punctures to the sidewall should not be repaired. Tires must be removed from the rim to be properly inspected before being plugged and patched.

### 1.5.9. TIRE FUNDAMENTALS

Federal law requires tire manufacturers to place standardized information on the sidewall of all tires. This information identifies and describes the fundamental characteristics of the tire and also provides a tire identification number for safety standard certification and in case of a recall.

1.5.9.1. Information on Passenger Vehicle Tires

Please refer to the diagram below.




**P**
The "P" indicates the tire is for passenger vehicles.

**Next number**
This three-digit number gives the width in millimeters of the tire from sidewall edge to sidewall edge. In general, the larger the number, the wider the tire.

**Next number**
This two-digit number, known as the aspect ratio, gives the tire's ratio of height to width. Numbers of 70 or lower indicate a short sidewall for improved steering response and better overall handling on dry pavement.

**R**
The "R" stands for radial. Radial ply construction of tires has been the industry standard for the past 20 years.

**Next number**
This two-digit number is the wheel or rim diameter in inches. If you change your wheel size, you will have to purchase new tires to match the new wheel diameter.

**Next number**
This two- or three-digit number is the tire's load index. It is a measurement of how much weight each tire can support. You may find this information in your owner's manual. If not, contact a local tire dealer. Note: You may not find this information on all tires because it is not required by law.

**M+S**
The "M+S" or "M/S" indicates that the tire has some mud and snow capability. Most radial tires have these markings; hence, they have some mud and snow capability.

**Speed Rating**
The speed rating denotes the speed at which a tire is designed to be driven for extended periods of time. The ratings range from 99 miles per hour (mph) to 186 mph. These ratings are listed below. Note: You may not find this information on all tires because it is not required by law.

# Tire Safety Information

| Letter Rating | Speed Rating |
|---|---|
| Q | 99 mph |
| R | 106 mph |
| S | 112 mph |
| T | 118 mph |
| U | 124 mph |
| H | 130 mph |
| V | 149 mph |
| W | 168* mph |
| Y | 186* mph |

* For tires with a maximum speed capability over 149 mph, tire manufacturers sometimes use the letters ZR. For those with a maximum speed capability over 186 mph, tire manufacturers always use the letters ZR.

**U.S. DOT Tire Identification Number**
This begins with the letters "DOT" and indicates that the tire meets all federal standards. The next two numbers or letters are the plant code where it was manufactured, and the last four numbers represent the week and year the tire was built. For example, the numbers 3197 means the 31st week of 1997. The other numbers are marketing codes used at the manufacturer's discretion. This information is used to contact consumers if a tire defect requires a recall.

**Tire Ply Composition and Materials Used**
The number of plies indicates the number of layers of rubber-coated fabric in the tire. In general, the greater the number of plies, the more weight a tire can support. Tire manufacturers also must indicate the materials in the tire, which include steel, nylon, polyester, and others.

**Maximum Load Rating**
This number indicates the maximum load in kilograms and pounds that can be carried by the tire.

**Maximum Permissible Inflation Pressure**
This number is the greatest amount of air pressure that should ever be put in the tire under normal driving conditions.

1.5.9.2. UTQGS Information

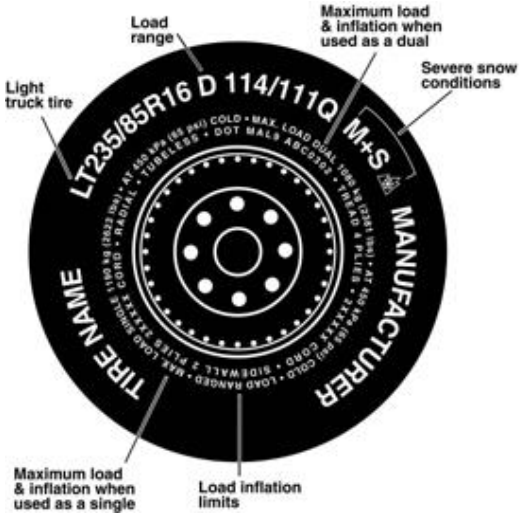
**Treadwear Number**
This number indicates the tire's wear rate. The higher the treadwear number is, the longer it should take for the tread to wear down. For example, a tire graded 400 should last twice as long as a tire graded 200.

**Traction Letter**
This letter indicates a tire's ability to stop on wet pavement. A higher graded tire should allow you to stop your car on wet roads in a shorter distance than a tire with a lower grade. Traction is graded from highest to lowest as "AA","A", "B", and "C".

**Temperature Letter**
This letter indicates a tire's resistance to heat. The temperature grade is for a tire that is inflated properly and not overloaded. Excessive speed, underinflation or excessive loading, either separately or in combination, can cause heat build-up and possible tire failure. From highest to lowest, a tire's resistance to heat is graded as "A", "B", or "C".

1.5.9.3. Additional Information on Light Truck Tires

Please refer to the following diagram.




Tires for light trucks have other markings besides those found on the sidewalls of passenger tires.

**LT**
The "LT" indicates the tire is for light trucks or trailers.

**ST**
An "ST" is an indication the tire is for trailer use only.

**Max. Load Dual kg (lbs) at kPa (psi) Cold**
This information indicates the maximum load and tire pressure when the tire is used as a dual, that is, when four tires are put on each rear axle (a total of six or more tires on the vehicle).

**Max. Load Single kg (lbs) at kPa (psi) Cold**
This information indicates the maximum load and tire pressure when the tire is used as a single.

**Load Range**
This information identifies the tire's load-carrying capabilities and its inflation limits.

## 1.6. TIRE SAFETY TIPS

**Preventing Tire Damage**

- Slow down if you have to go over a pothole or other object in the road.
- Do not run over curbs or other foreign objects in the roadway, and try not to strike the curb when parking.

**Tire Safety Checklist**

- Check tire pressure regularly (at least once a month), including the spare.
- Inspect tires for uneven wear patterns on the tread, cracks, foreign objects, or other signs of wear or trauma.
- Remove bits of glass and foreign objects wedged in the tread.
- Make sure your tire valves have valve caps.
- Check tire pressure before going on a long trip.
- Do not overload your vehicle. Check the Tire Information and Loading Placard or User's Manual for the maximum recommended load for the vehicle.

# Notes